TX REPORT \*\*\*\*\*\*\*\*\*\*\*\*\*



TRANSMISSION OK

TX/RX NO

2371

CONNECTION TEL

#7015272001#17038729306#

CONNECTION ID

01/15 15:40

ST. TIME USAGE T

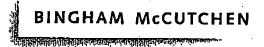
02'01

PGS. SENT

9

RESULT

OK



# **Facsimile**

DATE January 15, 2004

103 - 872 - 9706

NAME

**FAX** 

PHONE

TO Examiner Vy Q. Bui

703-308-2708

703**-**306-3420

Group Art Unit 3731

703-872-9303

TC3700

United States Patent and Trademark

Binghom McCurchen LLP 1900 University Avenue

East Palo Alto, CA 94303-2223

Office

650,849,4400

FROM

Jeffrey S. Smith

(650) 849-4800

(650) 849-4422

650.849.4800 fax

bingham.com

**PAGES** 

(including this cover page): 9

jeffrey.smith@bingham.com

Boston

Hartford

Filed:

U.S. Patent Application Serial No. 09/522,724 March 10, 2000

London

Title:

Assignee:

SYSTEMS AND METHODS FOR DEPLOYING A BIOSENSOR WITH A STENT

Los Angeles

GRAFT Applicant:

New York Orange County

Lone Wolinsky

Remon Medical Technologies Ltd.

Son Francisco

Silican Valley

Attorney Docket No.: 247/212 (7015272001)

Takyo

Walnut Cruek Washington Message:

Certificate of Transmission (37 C.F.R. § 1.8(a)):

Pursuant to 37 C.F.R. § 1.6(d), I hereby certify that this paper and all enclosures are being sent via facsimile on the date indicated below to the attention of Examiner Vy Q. Bui. (Group Art Unit 3731) at Facsimile No. (703) 308-2708.

Dated: January 15, 2004

Name of Person Certifying:

Printed Name: Sheila Henrique

Enclosed:

| 01/15/2004 13 | : 34 | FAX |
|---------------|------|-----|
|---------------|------|-----|

BINGHAM MCCUTCHEN LLP

Ø 001

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MULTI TX/RX REPORT \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

TX/RX NO 2361 PGS. 9 TX/RX INCOMPLETE

TRANSACTION OK 17038729303# (2)

ERROR INFORMATION (1)\*23263#7015272001#17033082708#

BINGHAM McCUTCHEN

# **Facsimile**

DATE January 15, 2004

| ٠  | NAME                               | FAX          | PHONE        |
|----|------------------------------------|--------------|--------------|
| TO | Examiner Vy Q. Bui                 | 703-308-2708 | 703-306-3420 |
|    | Group Art Unit 3731                | 703-872-9303 |              |
|    | TC3700                             |              |              |
|    | United States Patent and Trademark |              |              |
|    | Office                             |              | _            |
|    | <u> </u>                           |              |              |

Bingham McCutchen LLP 1900 University Avenue East Palo Alto, CA

94303-2223

650.849,4400 650.849.4800 fax FROM Jeffrey S. Smith

(650) 849-4800

(650) 849-4422

jeffrey.smith@bingham.com

bingham.com

**PAGES** 

(including this cover page): 9

Boston

RE U.S. Patent Application Serial No. 09/522,724 Filed:

Hortford London

March 10, 2000 Title: SYSTEMS AND METHODS FOR DEPLOYING A BIOSENSOR WITH A STENT

Los Angelas

GRAFT

New York Orange County

Lone Wolinsky Applicant:

San Franci≤co

Remon Medical Technologies Ltd.

Silicon Valley

Assignee: Attorney Docket No.: 247/212 (7015272001)

Takyo

Message:

Walnut Creek

Washington

#### Certificate of Transmission (37 C.F.R. § 1.8(a)):

Pursuant to 37 C.F.R. § 1.6(d), I hereby certify that this paper and all enclosures are being sent via facsimile on the date indicated below to the attention of Examiner Vy Q. Bui, (Group Art Unit 3731) at Facsimile No. (703) 308-2708.

Dated: January 15, 2004

Name of Person Certifying: Printed Name:

Sheila Henriquez

#### Enclosed:

- Transmittal (1 pg.);
- Response to final Office Action (7 pgs.).

### **Facsimile**

January 15, 2004 DATE

|                                       | NAME                               | FAX          | PHONE        |
|---------------------------------------|------------------------------------|--------------|--------------|
| ТО                                    | Examiner Vy Q. Bui                 | 703-308-2708 | 703-306-3420 |
|                                       | Group Art Unit 3731                | 703-872-9303 |              |
| TC3700 United States Patent and Trade | TC3700                             |              |              |
|                                       | United States Patent and Trademark |              |              |
|                                       | Office                             |              |              |

Bingham McCutchen LLP 1900 University Avenue East Palo Alto, CA 94303-2223

> 650.849.4400 650.849.4800 fax

Jeffrey S. Smith FROM

(650) 849-4800

(650) 849-4422

jeffrey.smith@bingham.com

bingham.com

(including this cover page): 9 **PAGES** 

Boston

U.S. Patent Application Serial No. 09/522,724

Hartford

Filed: March 10, 2000 Title:

London Los Angeles

New York

SYSTEMS AND METHODS FOR DEPLOYING A BIOSENSOR WITH A STENT GRAFT

Orange County

Applicant: Lone Wolinsky Assignee:

San Francisco

Remon Medical Technologies Ltd. Attorney Docket No.: 247/212 (7015272001)

Silicon Valley

Washington

Tokyo Walnut Creek

Message:

#### Certificate of Transmission (37 C.F.R. § 1.8(a)):

Pursuant to 37 C.F.R. § 1.6(d), I hereby certify that this paper and all enclosures are being sent via facsimile on the date indicated below to the attention of Examiner Vy Q. Bui, (Group Art Unit 3731) at Facsimile No. (703) 308-2708.

Dated: January 15, 2004

Name of Person Certifying:

Printed Name:

Sheila Henriquez

#### Enclosed:

- Transmittal (1 pg.);

- Response to final Office Action (7 pgs.).

For transmission problems, please call (650) 849-4825

The information in this transmittal (including attachments, if any) is privileged and confidential and is intended only for the recipient(s) listed above. If you are neither the intended recipient(s) nor a person responsible for the delivery of this transmittal to the intended recipient(s), you are hereby notified that any unauthorized reading, distribution, copying or disclosure of this transmittal is prohibited. If you have received this transmittal in error, please notify us immediately at (same telephone number as in first paragraph - will duplicate) and return the transmittal to the sender. Thank you.

| Timekeeper No:      | 23263                           | Client/Matter No: | 7015272001 | DATE/TIME STAMP |
|---------------------|---------------------------------|-------------------|------------|-----------------|
| Client/Matter Name: | Remon Medical Technologies Ltd. |                   |            |                 |
| Return To:          | Sheila Henriquez                |                   | Floor No:  |                 |

PTO/SB/21 (08-03)

Approved for use through 07/31/2006, OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

\* 3 A

| TDANGMITTAI   |  | Application Number                      | 09/522,724  |   |
|---|--|---|---|---|
| TRANSMITTAL FORM  |  |   | Filing Date   | March 10, 2000  |
|   |  |   | First Named Inventor  | Lone Wolinsky   |
| (to be used for all correspondence after initial filing)                      |  | Art Unit                                | 3731  |   |
|   |  |   | Examiner Name   | Vy Q. Bui   |
| Total Number of Pages   | in This Submission   | 8                                       | Attorney Docket Number                                      | 247/212 US (7015272001)   |
|   |  | ENCLO                                   | SURES (check all that apply)                                |   |
| Fee Transmittal Fo  | orm  | Drawin                                  | g(s)  | After Allowance Communication to Group  |
| Fee Attached  |  | Licensi                                 | ng-related Papers   | Appeal Communication to Board of Appeals and Interferences  |
| Amendment / Repl  | y (7 pgs).   | Petition                                | <b>1</b>  | Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)   |
| After Final   |  | Provisi                                 | n to Convert to a<br>onal Application                       | Proprietary Information   |
| Affidavits/decla  | aration(s)   | Power Chang                             | of Attorney, Revocation<br>e of Correspondence Address      | Status Letter   |
| Extension of Time Request   |  | Terminal Disclaimer                     |   | Other Enclosure(s) (please identify below):   |
| Express Abandonment Request   |  | Request for Refund  CD, Number of CD(s) |   | Fax Cover Sheet to Examiner   |
| Information Disclosure Statement  |  |   | 55, Hambor of OB(3)   |   |
| Certified Copy of Priority Document(s)  |  | Rema                                    | rks   |   |
| Response to Missing Parts/ Incomplete Application                             |  |   |   |   |
| Response to Missing Parts under 37 CFR 1.52 or 1.53                           |  |   |   |   |
|   | SIGNAT   | URE OF                                  | APPLICANT, ATTORNEY, O                                      | R AGENT   |
| Firm<br>or<br>Individual name   | Bingham McCutchen LLP                                      |   |   |   |
| Signature   | Jeffrey S. Smith, Reg. No. 39,377                          |   |   |   |
| Date  | Date January 15, 2004                                      |   |   |   |
|   |  | CE                                      | RTIFICATE OF MAILING  |   |
| I hereby certify that thi<br>Service with sufficient<br>Alexandria, VA 22313- | t postage as first cl                                      | ass mail ir                             | simile transmitted to the USPTO an envelope addressed to: C | or deposited with the United States Postal ommissioner for Patents, P.O. Box 1450,                                |
| Typed or printed name Sheila Henriquez  |  |   |   |   |
| Signature Allensen  |  |   |   | Date January 15, 2004   |
| This collection of information process) an application. Cor                   | n is required by 37 CFR 1<br>infidentiality is governed by | .5. The inform<br>y 35 U.S.C. 12        | ation is required to obtain or retain a ber                 | nefit by the public which is to file (and by the USPTO to stimated to 12 minutes to complete, including gathering |

process) an application. Confidentiality is governed by 39 C.S.C. 122 and 37 C.F.R. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/522,724

Applicant: Assignee:

Lone Wolinsky and Avi Penner Remon Medical Technologies Ltd.

Filing Date:

March 10, 2000

Title:

SYSTEMS AND METHODS FOR DEPLOYING A BIOSENSOR WITH A STENT GRAFT

Examiner:

Bui, Vy Q.

Group Art Unit:

3731

Attorney Docket No.: 247/212 (7015272001)

Mail Stop AF Commissioner For Patents P.O. Box 1450 Alexandria, VA 22313-1450

### AMENDMENT AFTER FINAL REJECTION

Dear Sir:

In response to the final Office action mailed November 18, 2003, please amend this application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 4 of this paper.

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** 

1. (Currently Amended) A stent graft, comprising:

a tubular prosthetic graft comprising an outer surface;

a support structure expandable between a contracted condition for facilitating

introduction into a blood vessel, and an enlarged condition for securing the graft across a

weakened region of the blood vessel; and

a biosensor attached to at least one of the graft and the expandable support structure, the

biosensor comprising a pressure sensor having at least a portion exposed to a region external to

the stent graft to sense pressure beyond the outer surface of the graft within the weakened region

of the blood vessel when the graft is secured within the blood vessel.

2. (Previously Presented) The stent graft of claim 1, wherein the biosensor is

directly attached to an outer surface of the graft such that the pressure sensor is exposed outside

the graft.

3. (Original) The stent graft of claim 2, wherein the biosensor is attached to the

graft by sutures or an adhesive.

4. (Original) The stent graft of claim 1, wherein the biosensor is directly attached to

struts comprising the support structure.

2

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

5. (Original) The stent graft of claim 1, wherein the support structure comprises a self-expanding stent.

6. (Original) The stent graft of claim 1, wherein the support structure comprises a balloon-expandable stent.

7-20 (Canceled)

21. (Previously Presented) The stent graft of claim 1, wherein the weakened region of the blood vessel comprises an aneurysmal sac, and the biosensor is configured for sensing a pressure within the aneurysmal sac when the graft is secured within the blood vessel.

22-24. (Canceled)

25. (Previously Presented) The apparatus of claim 4, wherein the support structure is attached to an inner surface of the graft, and wherein the biosensor is mounted in a hole through the graft such that the pressure sensor is exposed outside the graft.

26. (Canceled)

27. (New) The apparatus of claim 1, where in the biosensor comprises means for converting acoustic energy received from an externally originated signal into a current supply for powering one or more sensors embedded in the biosensor.

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

#### <u>REMARKS</u>

Claims 1-6, 21, 25 and 27 are pending. Claims 1-2 and 21 stand rejected under 35 U.S.C. § 102(e) based on U.S. Patent No. 6,159,156 issued to Van Bockel ("Van Bockel). Claims 3-6 and 25 stand rejected under 35 U.S.C. § 103 based on Van Bockel in view of U.S. Patent No. 5,967,986 issued to Cimochowski, et al. ("Cimochowski").

Claim 1 stands rejected based on Van Bockel.

Van Bockel discloses:

A device 1, 10 according to the present invention is especially suitable for measurement of pressure within an aneurysmal sac 20 in an artery 21, for example an artery in the abdomen of a human body, as shown in FIG. 3.

An aneurysm is dangerous to the health of a human or animal since rupture of especially an artery would lead to internal bleeding with possible lethal consequences. In order to negate this risk endoprosthesis are used for bridging an aneurysm. In FIG. 3 a tube endoprosthesis is shown, positioned within an artery 21. The endoprosthesis 22 comprises a flexible, closed wall 23, and is provided fully or at both ends with a stent 24a, 24b. A first end 25 of the endoprosthesis is positioned within the artery 21 at the upstream side of the aneurysm 20, by means of the stent 24a, the second end 26 at the opposite, downstream side of the aneurysm by means of the second stent 24b. An endoprosthesis of this type is known in the state of the art and is for example manufactured under the registered trademark Vanguard by the Meadox Boston Scientific Corporation, USA. However, all kinds of endoprosthesis can be used, for example a tube, bifurcated, uni- or bilateral prothesis. A device 1, 10 according to the present invention is introduced into the aneurysmal sac 20 between the wall 27 of the aneurysmal sac and the endoprosthesis 22. In FIG. 3 a device 1 according to FIG. 1 is positioned left of the endoprosthesis, within clotted blood in the aneurysmal sac. In the same FIG. 3 a device 10 according to FIG. 2 is positioned within the aneurysmal sac 20, right of the endoprosthesis 22, and is attached to the endoprosthesis by means of the hook means 11. These positions are only shown in one figure for elucidation purposes and might normally not be combined. Other means for positioning a device according to the present invention within an aneurysmal sac or a blood vessel can be used in any suitable manner.

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

(Col. 4, line 62 through Col. 5, line 28). Van Bockel does not disclose "a biosensor attached to at least one of the graft and the expandable support structure, the biosensor comprising a pressure sensor having at least a portion exposed to a region external to the stent graft to sense pressure beyond the outer surface of the graft within the weakened region of the blood vessel when the graft is secured within the blood vessel," as recited in amended claim 1. Therefore, Applicants respectfully submit that claim 1 is patentable over Van Bockel. Given that claims 2-6, 21 and 25 depend from claim 1, these claims are also believed patentable over Van Bockel for at least this same reason.

Claims 3-6 and 25 stand rejected based on Van Bockel in view of Cimochowski.

Van Bockel does not disclose "a biosensor attached to at least one of the graft and the expandable support structure, the biosensor comprising a pressure sensor having at least a portion exposed to a region external to the stent graft to sense pressure beyond the outer surface of the graft within the weakened region of the blood vessel when the graft is secured within the blood vessel," as recited in amended claim 1.

#### Cimochowski discloses:

FIG. 19 illustrates an integrated circuit (IC) sensor 220 mounted on a stent body 222, so that the IC sensor overlies a sensor window opening 224 in the stent body. Conductive adhesive or solder drops 228 couple the IC sensor contacts to the stent body (or to conductors that are coupled to one of the electronic assemblies shown in FIGS. 1-6). A biocompatible coating 226 encloses the IC sensor, except in the area of the sensor window opening through which the IC sensor is in contact with the fluid flowing through the lumen of the stent.

(Col. 22, lines 50-59). Cimochowski does not disclose "a biosensor attached to at least one of the graft and the expandable support structure, the biosensor comprising a pressure sensor having

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

at least a portion exposed to a region external to the stent graft to sense pressure beyond the outer surface of the graft within the weakened region of the blood vessel when the graft is secured within the blood vessel," as recited in claim as amended.

Even if Van Bockel and Cimochowski were combined, the combination would neither teach not suggest "a biosensor attached to at least one of the graft and the expandable support structure, the biosensor comprising a pressure sensor having at least a portion exposed to a region external to the stent graft to sense pressure beyond the outer surface of the graft within the weakened region of the blood vessel when the graft is secured within the blood vessel," as recited in amended claim 1. Therefore, applicants respectfully submit that claim 1, as amended, is patentable over Van Bockel in view of Cimochowski. Given that Claims 3-6 and 25 depend from claim 1, applicants submit that these claims are patentable over Van Bockel in view of Cimochowski for at least this same reason.

Amdt. dated January 15, 2004

Reply to final Office action of November 18, 2003

Patent

Docket No.: 247/212 US

7015272001

### **CONCLUSION**

Entry of this Amendment, and allowance of the claims is respectfully requested. The Examiner may call the Assignee's attorney at (650) 849-4422 to further advance prosecution of this case to issuance.

If the Commissioner determines that additional fees are due or that an excess fee has been paid, the Patent Office is authorized to debit or credit (respectively) Deposit Account No. <u>50-</u> <u>2518</u>, referencing billing no. <u>7015272001</u>.

DATE: January 15, 2004

Respectfully submitted,

By:

Registration No. 39,377

Bingham McCutchen LLP Three Embarcadero Center, Suite 1800 San Francisco, California 94111

Telephone: (650) 849-4422

Telefax: (650) 849-4800